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IS : 10166 - 1982

Indian Standard

METHOD FOR
CALIBRATION OF STANDARDIZED TEST
BLOCK FOR VERIFICATION OF SCLEROSCOPE
HARDNESS TESTING EQUIPMENTS

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METHOD FOR CALIBRATION OF STANDARDIZED TEST BLOCK FOR VERIFICATION OF SCLEROSCOPE HARDNESS TESTING EQUIPMENTS

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(Continued on page 2)

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(Continued from page 1)

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Indian Standard

METHOD FOR CALIBRATION OF STANDARDIZED TEST BLOCK FOR VERIFICATION OF SCLEROSCOPE HARDNESS TESTING EQUIPMENTS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 12 April 1982, after the draft finalized by the Methods of Physical Tests Sectional Committee had been approved by the Structural and Metals Division Council.

0.2 In the preparation of this standard, assistance has been derived from ASTM E 448-1972 'Standard recommended practice for scleroscope hardness testing of metallic materials', published by the American Society for Testing and Materials.

0.3 In reporting the result of a test made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960*.

1. SCOPE

1.1 This standard prescribes the method for calibration of standardized test blocks for verification of scleroscope hardness instruments.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 5069-1982† shall apply.

3. MANUFACTURE

3.1 Each test block to be calibrated shall be of steel with dimensions not less than 25 × 25 × 75 mm and the opposite sides shall be parallel.

*Rules for rounding off numerical values (*revised*).

†Glossary of terms relating to methods of mechanical testing of metals (*first revision*).

3.2 Each block shall be specially prepared and heat treated to give a specific hardness and the necessary homogeneity and stability of structure.

3.3 The surfaces of the four rectangular sides of the block shall have a ground finish and shall be free from scratches which would influence the hardness reading.

3.4 The mean surface roughness height rating of the surface of each of the four sides shall not exceed 300 nano metres, and centre line parallel to the face.

4. STANDARDIZING PROCEDURE

4.1 Determine the hardness value of the test block by using a scleroscope instrument of accepted accuracy mounted in the clamping stand.

4.2 Select five points at random on each of the rectangular faces of the test block and carry out hardness determination at each of the above points.

4.3 Take the arithmetic mean of the twenty readings as the mean hardness of the block.

5. UNIFORMITY OF HARDNESS

5.1 The test block shall be regarded as sufficiently uniform for standardization purpose only when at least 18 out of 20 scleroscope readings (90 percent of the total reading) taken on the block lie within ± 2 scleroscope points from the mean hardness.

6. MARKING

6.1 Each block shall be marked on the end with the following:

- a) One hardness number below and one hardness number above the arithmetic mean of the hardness values found in the standardizing test,
- b) The letter as appropriate, to designate the type of instrument to be standardized, and
- c) The name or mark of the supplier.